

Figure 1A

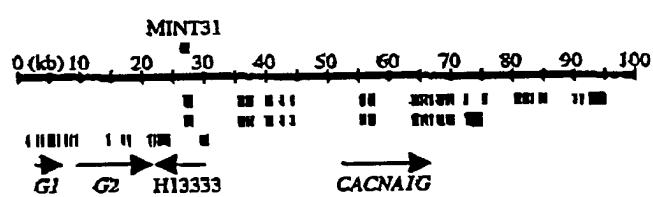


Figure 1B

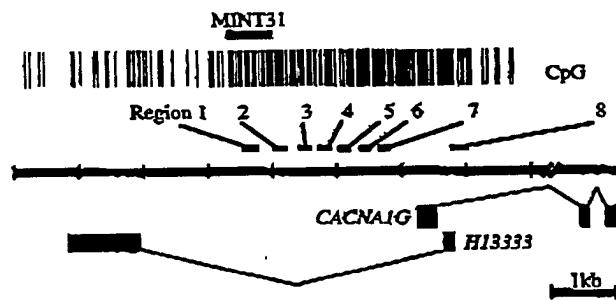


Figure 2

Methylation pattern	Island 1				Island 2				Expression of <i>hCACNA1G</i>								
	R1	M B	R2	T B	R3	M M	R4	M T	R5	B T	R6	H H	R7	E E	R8	T B	
1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	++
2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	++
3	●	●	●	●	○	○	○	○	○	○	○	○	●	●	○	○	++
4	●	●	●	●	○	○	○	○	○	○	○	○	●	●	●	●	0
5	●	●	●	●	○	○	○	○	○	○	○	○	●	●	●	●	0++

FIGURE 3A (SEQ ID NO:51) CACNA1G nucleotide sequence

CCTTTCGTCGCCCTCTGGGGCGCTTCGCCGAAGGTAGGCCAATCCGCAACCGAGCCTGGCGCGAACGGAAG
AAGCCGAAACAAAGTGAGGGGGAGCCGGCGCTGGCCCCGGAAAGCCCAGGGCGCAGGGGAAGCGGACTCGGCCGG
CGGGGTTCCCTGCGCCCGGGCCCCGGCAGCATGCCCTCGGGCAGGGGGAGCTGGCTGAACCTCCTCTGA
GGGGCTCAGCTTGCCTAGAGCCCACCAGATGTGCCCCGCCGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
GGGGCGCCGCTGCCCTCTCCGGATGCCGGGGCCCCGGCTGGCAGAGGATGGACGAGGAGGAGGATGGAGCGGGCG
CCGAGGAGTCGGACAGCCCCGGAGCTTCATGCCGCTCACGACCTGTCGGGGCCGGGGCCGGCCGGGGGTCA
GCAGAAAAGGACCCGGAGCGGGACTCCGAGGGCGAGGGGCTGCCGTACCCGGCTGGCCCCGGTGGTTTCTTCTA
CTTGAGCCAGGACAGCCGCCCGCAGCTGGTGTCTCCGCACGGCTGTGAACCCCTGGTTGAGCGCATCAGCATTTGG
TCATCCTCTCAACTGCGTGACCCCTGGCATGTTCCGGCATGCGAGGACATGCCCTGTGACTCCCAGCGCTGCCGGATC
CTGAGGCCCTTGATGACTTCATCTTGCTTCTTGCGGTGGAGATGGTGTGAAGATGGTGGCTGGGATCTTGG
GAAAAAGTGTACCTGGGAGACACTGGAACCCGGCTTGACTTTTCATCGTCATCGCAGGGATGCTGGAGTACTCGCTGG
ACCTGCAGAACGTCAGCTCTCAGCTGTCAGGACAGTCAGCTGTGCTGCAGCGCTAGGGCATTAAACGGGTGCCAGC
ATGCGCATCCTTGTACGTTGCTGGATACGCTGCCATGCTGGCAACGTCCTGCTGCTCTGCTTCTCGTCTT
CATCTCGGCATCGCCTCCAGCTGTGGCAGGGCTGCTGGAAACCGATGCTTCTACCTGAGAATTTCAGCCTCC
CCCTGAGCGTGGACCTGGAGCGCTATTACAGACAGAGAACGAGGATGAGAGGCCCTCATCTGCTCCAGCCACCGAG
AACGGCATCGGTCTCGAGAACGGCTGCCACGCTGCGGGGAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
GCCCTACAACAGCTCCAGCAACACACCTGTGTCAGTGGAAACAGTACTACACCAACTGCTCAGCGGGGAGCACAA
CCTCAAGGGGCCATCAACTTGAACAACTGGCTATGCTGGATGCCATCTCCAGGTGATCACGCTGGAGGGCTGG
GTCGACATCATGTACTTGTGATGGATGCTCATTCTCTACATTTGATCTACTTCATCCTCTCATCGTGGCTC
CTTCTCATGATCAACCTGTGCTGGTGGTGAATTGCCACGCTGAGGACAGGACAGCAGGGAAAGCCAGCTGATGC
GGGAGCAGCGTGTGCGGTTCTGTCACAGCAGGACAGGGCTGGCTAGGCTCTGAGGCCAGCTGCTATGAGGAGCTG
CTCAAGTACCTGGGTGATCATCCTTCGTAAGGAGGCCAGGAGACCCAGCAGCAGCTGCTCTGCTCCACCGCCGCTAT
GCTGCTCAGCAGGCCAGCACCCCTGGGGCCAGGAGACCCAGCAGCAGCTGCTCTGCTCCACCGCCGCT
CCGTCCACCACTGGTGCACCAACACCACCATCACCAACTACCAACCTGGCAATGGGACGCTCAGGGCCCCCG
GCCAGCCGGAGATCCAGGACAGGGATGCCAATGGTCCCGCCGGCTATGCTGCCACCACTCGACGCCCTGCCCTCTC
CGGGGCCCCCTGGTGGCGCAGAGTCTGTGACAGCTTACCATGCCACTGCCACTTAGAGCCAGTCCGCTGCCAGG
CGGCCCCCTCCAGGTCCTCATGAGGACATCCGGCAGGACTGTGGCAGCGGGAGGTGTATCCCACCGTGCACACCAG
CCTCCACCGAGACGCTGAAGGAGAAGGACTAGTAGAGGTGGCTGCCAGCTGGGCCCCAACCTCACCAGCTCAA
CATCCCACCGGGCCCTACAGCTCATGCCACAGCTGCTGGAGACACAGAGTACAGGTGCCAAAGCTCTGCAAGA
TCTCCAGCCCTTGCTGAAGCAGACAGTGGAGCCTGGTCCAGACAGCTGCCCTACTGTGCCGGGGCAGGG
GAGGTGGAGCTGCCGACCGTGAATGCCGACTCACAGACAGCAGGAGCAGTTATGAGTTACACAGGATGCCAGCACAG
CGACCTCCGGGACCCACAGCCGGCAACGGAGCTGGCCAGATGCAGAGGCCAGCTGTGCTGGCCTCTGG
GGCTAATCTGTGACACCTTCCGAAAGGAGATGGACAGCAAGTACTTGGCCGGGAATCATGATGCCATCTGGTCAAC
ACACTCAGCATGGCATCGAATAACACAGAGCAGCCGAGGGCTTACCAACGCCCTAGAAATCAGCAACATCGTCTTCAC
CAGCCTCTTGGCCCTGGAGATGCTGCTGAAGCTGCTGTATGGCTCCCTTGGCTACATCAAGAAATCCCTACAACATCT
TCGATGGTGTCAATTGGTGCATCAGCTGCTGGAGATCGTGGGCCAGGGGGGGGGCTGCTGCTGCCACCTTC
CGCCTGATGCGTGTGCTGAAGCTGGTGCCTCTGCCGGCTGCGAGCTGGTGGTGCATGAAGACCATGGA
CAACGTGGCACCTCTGCTGATGCTGCTTATGCTCTCATCTTCAGCATCTGGCATGCTCTGGCTGCA
AGTTGCTCTGACGGGGATGGGACACCCCTGCCAGACCGGAAGAATTGACTCCTGCTCTGGGCCATCGTCACTGTC
TTTCAGATCCTGACCCAGGAGGACTGGAAACAAAGTCTTACAAATGGTATGGCTCCACGTCCTGGCGGGCTT
TTTCATTGCCCTCATGACCTTGCACACTACGTGCTCTCAATTGCTGGTGCCTTCTGCTGCTTCTCATCTTCAG
AGGGAGATGCCAACAAAGTCCGAATCAGAGCCGATTCTCTCACCCAGCCTGGATGGTGTGGGACAGGAAGAAGTGC
TTGGCTTGGTGTCCCCGGAGAGCAGCCGGAGCTGCCAGGGAGAGGCCAGGAGAGGCCAGGATGAAGAGGAGAG
ACCCATGTCGCTGCCAACAGAGCAGCAGCGGCCAGGGCTGGCGAGGGCGCTGGGCCCTGCGCAGCAGCAGCG
GGTCGGCAGAGCCTGGGGCGCCACAGAGATGAAGTCACCGCCAGCGCCAGCTCCGCACAGCCCTGGAGCGCT
GCAAGCAGCTGGACCAAGCAGGGCGCTCCAGCAGGGAAACAGCCTGCCGTGCAAGCAGGAGAGGCCAGG
AGAGCGGGGGTCCCTGGTGTGGAGAGCAGGGAGGCCAGGGAGGCCAGGAGAGGCCAGGATGAAGAGGAGAG
CTGCCAGGGCTGCATGCCACTGCCAGTGGCCAGGGTCTGCTGAGCACCAAGACTGCAATGGCAAGTCGGCTTCAGG
GTGCCAGGGCTGCATGCCACTGCCAGTGGCCAGGGTCTGCTGAGCACCAAGACTGCAATGGCAAGTCGGCTTCAGG
GCCCTGGCCGGCCCTGCCGTGATGACCCCCACTGGATGGGATGACGCCGATGACGCCAGGCAACCTG

Figure 3B (SEQ ID NO:52)

MDEEEDGAGAEESGQPRSFMRLNDLSGAGGRPGPGSAEKDPGSA
DSEAEGLPYPALAPVVFFYLSQDSRPRSWCLRTVCNPWFERISMLVILLNCVTLMFR
PCEDIACDSQRCRILQAFDDFIAFFAVEMVVKMVALGIFGKKCYLGDTWNRLDFFIV
IAGMLEYSLDLQNVFSAVRTVRVLRPLRAINRVPSMRILVTLLLDTLPMLGNVLLC
FFVFFF1FGIVGVQLWAGLLRNRCFLPENFSLPLSVDLERYQTENEDESPFICSQPRE
NGMRSRCSRSPVTLRGDGGSPPCGLDYEAYNSSNTTCVNWNQYYTNCSAGEHNPFKGA
INFDNIGYAWIAIFQVITLEGWVDIMYFVMDAHSFYNFIFYFILLIIVGSFFMINLCLV
VIATQFSETKQRESQLMREQVRFLSNASTLASFSEPGSCYEELLKYLVYILRKAARR
LAQVSRAAGVRVGLLSSPAPLGGQETQSSCSRSHRRLSVHHLVHHHHHHHHYHLG
NGTLRAPRASPEIQDRDANGSRRMLLPPPSTPALSGAPPGAESVHSFYHADCHLEPV
RCQAPPKRSPSEASGRTVGSKVYPTVHTSPPPETLKEKALVEVAASSGPPTLTSLN
PPGPYSSMHKLLETQSTGACQSSCKISSPCLKADSGACGPSCPYCARAGAGEVELAD
REMPDSDSEAVYEFQDAQHSDLRDPHSRRQRSLGPDAEPSSVLAFWRLICDTFRKIV
DSKYFGRGIMIALVNTLSMGIEYHEQPEELTNALEISNIVFTSLFALEMLLKLLVYG
PFGYIKNPYNIFDGIVIVVISWEIVGQQGGGLSVLRTFRLMRVLKLVRFLPALQRQLV
VLMKTMNDNVATFCMLLMLFIFISILGMHLFGCKFASERDGDTLPDRKNFDSSLWAIV
TVFQILTQEDWNKVLYNGMASTSSWAALYFIALMTFGNYVLFNLVAILVEGFQAEGD
ANKSESEPDEFFSPSLGDGDRKKCLALVSLGEHPELRKSLLPPLIHTAATPMSLPKS
TSTGLGEALGPASRRTSSSGSAEPGAHEMKSPPSARSSPHSPWSAASSWTSRSSRN
SLGRAPSLKRRSPSGERRSLLSGEGQESQDEEESSEERASPGSDHRHRGSLEREAK
SSFDPDTLQVPLHRTASGRGSASEHQDCNGKSASGRLARALPDDPLDGDDADDE
GNL

FIGURE 4A

APOB CpG ISLAND (SEQ ID NO:105)

ccggggaggcgcccttggacccttgcacatcctggcgtcttgagccctggcttcataatgggtgcgggcccggccgcattc
ccacccgggacactgcggggctgagtgcccttcgtgtcgccgtcgaggagccccccagccagccaggcccgcgaggccgaggcc
aggccgcagcccaggagccgcaccgcagtcggcgtggaccggccgaggcccgcgtgtggcgtgcgcgtgcgtgcgtgc
gtcgtggccggccaggccggctgagtgcgcggccgtcgccgcagcagaggagcggagggagccggccggaccgagggt
ggccggggcagcctggcctagccagagggaggccagccacagggccagggcgtggggattggaccagctggccggcccc
tgtcaggcgtcaggatggggggcgcggatggagggcgtaggaggggtctccggagccctgcctccctctgaaaggtgaaacctgtgc
cggtggtccccctgtggcccttagcacccgtggaaagacgtggaaagctc

CACNA1G CpG ISLAND (SEQ ID NO:106)

FIGURE 4B

CDX2 CpG Island (SEQ ID NO:107)

ctcgtaatcacggaagccggcctgggtcccacgcctgtgcgggtttccccgcctgcagcctagtggaaaggaggt
gggaggaaagaagaaaggagggaggaggcaggccagaggagggaccgcctcgaggcagaagagccgcagg
agccagcgaggcaccgcggctgggcgcagccacccgcgcctcgagtcctcgcccttccctgtgcggggcagcctc
cagcgtcggtccccaggcagcatggtaggtctgtcccggtccctgcaccatgtacgtgagcta

EGFR CpG Island (SEQ ID NO:108)

gtccgcggggaccgggtccagagggcagtgtggaaacgcctctcgaaattaactccicagggcaccgcctccatgcgcc
gcctccactcccgccggagactaggtcccgccggccaccgtgtccaccgcctcgccgcgtggctgggtccccgcgtgttgtct
cctccctcttcctcgatttcctccctctgtccctcccgatccctccgcctggccctccctccgcctgcctcccgccctgcctcccgcc
ggcccgccgcgagctagacgtccggcagccccccggcgcagcgcggccgcagcagcctctcccccgcacgggtgtgagcgcggcc
gcgcgcaggcggccggagtcccgagctagccccccggccgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
agtccccccgcctcgccgcacaaccaccgcgcacgcggccctgactcgccagttatgtatcgggagagccggagcgcgcgcgc
cggggagcagcgtgcgaccctccggacggcggggcagcgtccctggcgtcgctgctggcgtcgctgcCggcagtcggcgtctg
Gaggaaaagaaaggtaaggcgtgtcgccgtcccgccgcgtcccttcctgtttcccttgagatcactgcgcggccgacccgcagccgc
gcgcaccggctcgcccgcccccgcgtcccttcctgtttcccttgagatcactgcgcggccgacccgcagccgc
acgtttcggttcctcgccggagactgtggggcggggagggagacgcgtgggacaccgggtgcaggccaggcgggaaacgg
ccggccgggacccgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
agccgggtgtggggcgtggggccctggggccggggccggccgcgcgcgcgcgcgcgcgcgcgcgcgc
accccgaggggccgtgcccacccgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
cgggacaggcggcttctgagaggacccgcgcgcgcgcgcgcgcgcgcgcgcgcgc
ggcccccctccagggtcccgccgtccctcggtccctcggtggagtcgcgcgcgcgcgcgc
cggcgtcccgccggggagggtgggtgtggggccctggcaaaaggcagggtggggtccgacccgc
cccgccgcgtcgccctcgcccggtgcgcgcgcgcgcgcgcgcgcgc
gcccggaaaggcccgaggctccctcgatggccgcgcggagacgtccgggtctgtccacctgc
cggtggagcggacgcggctgtccggccactgcaggggggatgcgggactcttgagcggaaaggcccg

FIGURE 4C
FBN1 CpG Island (SEQ ID NO:109)

agagccgegtctggagtggctcgcacaccccaggcaagtggggcgccagagcccttcctcggtcggcacagcagcctctgcgcggccgg
cctgcgcacgcgcggccaggcttagctcccgccctccggcgtctgctgatgtccggggagaggcgcagggagcgcgtaccggaggcgcggc
acggggactggtttctcggccaggccctccggcaaccgtctccagcgcgcattctggcaggtggaaacagcttctgcctccggtagggctt
cacctatcgccggagaggtaatctggatctaaccctcgagccgagagccgtaaaaccgtactccacccatttctccctccaccc
aagacaaaaaagtcccaggccggcaggactgtacacccctcgctctccactcgctataccctgcgagcggaggactggcttccatcc
ctgcaaaaggagtgaaagggaggatggatggggccgggggggggtggatggggcagacgaaggagggggtgtcattttctttttt
ttaaaaaaaagtatttctcgcgagaaaccgtcgccgacgatacttgaagaggtggggaaaggaggggggctggggagccgcggcagagactgt
gggccacaagccgacaggagccacagctGgacagctgcgagccgagcagtggctgtacggccacgactggagcagccgcgc
ccctcggagatcgagccgcttccactgggtcagccgggtccgcacgggggtgtccggccacccgggctggagctgcggccacgg
ggctttgcgttgcgcgnnnnaggcgaggacaggactgggtgaggggtgtccggcgtacatggccgggatggccgggacggcgcggct
gacagctccctgnccgggcttgcggccggcgtacatggccgggatggccgggatggccgggacggcgcggct
ccagctggcgagagggcaggctgaggagtggggcttgcggccgggatggccgggatggccgggacggcgcggct
ccggggcttaggaccgtggatgggtactttgcgcgcgtctctgcggccgggatggccgggagggattggccgggctgtgcgcgg
gcctggcgttccagccagctgtggaccaaaccgtctcccttacccaaattaactgcgcacaggccgcacngtggcttgg
gcatggccgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
ggagaaggccgggggggggggggggggggggggggggggggggggggggggggggggggggggggggggggggggggggg
cagaccgagccccggcgcggcaagaggccggggagccggggctggcgcgcgcgcgcgcgcgcgcgcgcgcgc
accgtcttttagcgcctacacgacccatggggccgcacgcacccatggggaggctgggaacgtgaaggaaacc
ggcgggtggaggacacgcgcctaaaggtaaaggaaaccgggttccctc
actggatcaaaccgtgtc
aa

GPR37 (SEQ ID NO:110)

Tcccgccccccacccgccttagccgggcacccgtcaggctggatggcagactggggattaaacctgtccgcgcgcgc
ccgcgcaggctccgcgcctccgccttgcgtccctccacaaaccgtatctctccaggaggaggcgaaggactggggagg
ggcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
gtgaaccaccaggggatccgtccctccacaaaccgtatctctccaggaggaggcgaaggactggggagg
ggcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
ccggggcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
gtggccatcccttcgtccgggtgagccgcgtggcagactgc
ccaccctcccttcgtccgggtgagccgcgtggcagactgc
cccccacgcatttccttcgtccgggtgagccgcgtggcagactgc
ggggtgtggaaatccgcgtccctccctccggc
tgtttgcacactggccatccgcgtggcagactgc
actggatcaaaccgtgtc
aa

HSPA6 CpG Island (SEQ ID NO:111)

tgtattcgcatggtaacatatacttcggcttcctgcgcgtggcttcgcgcgcgcgcgcgcgcgc
agccccggggagaccgtccctaaagtgtctgtcttgcagactgtccacaaccgcgcgc
gttccttcagcagccctgtggcagaggccggctggcgtcaactgtggc
ggtcagccgcgcgtgcgcgcgcgcgcgcgcgcgc
gggtgggggggggggggggggggggggggggggggggggggggg
cggcgggggtcgccggggagggtgc
cggcggggaggatgaaaaggatgaaaaggccgtggc
cggcgggggggggggggggggggggggggggggggggggg
cctcactgctgagcgcgcgcgcgcgcgcgc
actggatcaaaccgc
c
aa

FIGURE 4D

IQGAP2 CpG Island (SEQ ID NO:112)

Agagttcactttacttcagtgtcagcgccggcggtggctggctggcggatccgagcgcggccggggcgccggccacacgaagagactggcgtcgcatatcg
gcggctagggaaatcgcgagaggcggtggatccgagcgcggccggggcgccggccacacgaagagactggcgtcgcatatcg
gcggggggcgcccccggggccccggagacgcgcaggatgccacacgaagagactggcgtcgcatatcg
ctctattgtggacgtgaa

KL CpG Island (SEQ ID NO:113)

ctcggaaagaggggcgcgggtggcgctcccccgagcatctcacctaaggggaatcccttcagcgcacggcgaagtccccctc
ggctgtcccacccctggcacttcccttaggattcgccagtccttaattggctccagcaatgtccagccggagcttggccctccgagtgg
gagaaaagttagagcagggtgttcccccagcggcgcgtccgctagggccggcaggatcccggcccaagtcggaaaagtggc
gcgcctttctcccccacgaagccgtccaggctgctcagaggacgcggcaggcaagagaatgaacctgagcgtccacgaaac
gtcctgcacggctccggagctggagaaacaggtgccttctccgacgtccgcggcagccgcacccgcgcacccgcgc
ccccctccgggacccctcgccctggcccccactggccaggccggaggcagtcgcaggtaattatgc
cagcggagccgcgggagcgggggtggcgccggcggtggcgGgcgggcgcggggcgccggcataaaggggcgc
ggcgcggggcccccggagcctggctcccgcgagcatgcccgcgcggccgcgcgcgcgcgcgcgcgcgcgc
cgctgctgtggcgtctggcctggcggccgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
gcctcctgccccggaggccgcggcccttcagggcacccctggcagccgcctaccagaccg
aggcggctggcagcagcacggcaagggtgctggacacgttccacccaccacccctggcaccggagactcccgga
acgcctgtccgtggcggccctgcgcgcgcgcgcgcgcgcgcgcgc
cacggaggcgctgcgcagctcggtcactcacccgttccatctgtggcgagtgctcccaatggcagcgcggcgtcc
ccaaccgcgaggggctgcgtactaccggccctgctggagcggctggagctggcgtcagccgtggcaccctgttaccactg
ggacctgccccagcgcctgcaggacgcctacggcggctggccaaaccgcgcgcgcgcaccacttcaggattacgcggagctgc
ttccgcacttcggcggtcaggtaagtactgatcaccatgacaaccctacgtggcctggcgcacggctacgcaccggcgc
gccccccggcatccgggcagccgcggctgggtacctggcgcacaa

PAR2 CpG Island (SEQ ID NO:114)

Cccggggcgtggcccccgcaggtgagtacgtctgcgtccctcggttccctgaaacctaaccgcgcggaggcgcgcagcagaggt
ccgattcggggcaggtgagaggctgactttctcggtgcgtccagtgagctctgagttcgaatggcggcggattccccgcgcgc
ccggcgtggggcttcaggaggatgcggagccccagcgcggcgtggctgtggggccatctgc

FIGURE 4E
PITX2 CpG Island (SEQ ID NO:115)

agtccgtgcctgctcctcggtggctctaagtgccccgccaggcccctccctcgctcccgctccggctccggactctcgcccccgtggcatctcgctccctc
ccctgcctcgttctcgcccccgtcgctcgccccccggcgctgcggccggcgctgctcgctcgatcgccagccgcgcagccggctggccggccgg
cgccactgtcgagtggatittggtaatctctgtcgacgtcacgtcaactcccccacacggagtagggagcagagggaaagagagagggatgagagggaggg
gagagagatgcgagacccggcggagaaactgtggagaggagcagaagaaaactgcacgtggcggtagatttgcgaggcccgatgcacccctggactccctcg
acttggcacccctcaggagccctgcagtccctcgtggccgggtttcggccgtccgtcagccggaggctggctgtggaaatgcggccggaaagcagtgg
cgccggacacgcgcgtctcccggtagccgataacggggaaatggagaccaactccgcaaaacttgtcgccgtctgcattagaaaaagataaaagccaga
ggggaaatggagacgtggccggccgaggaccgtctaagaagaagcggcaaaggcggcagcgg

PTCA CpG Island (SEQ ID NO:116)

GCAGCGCCGAGCGGGCAGCAGCGCCGCCGTGTGAGCAGCAGCGGGCTGGTCTGTCAACCGGAGCCC
GAGCCCCGAGCAGCCTGCGGCCAGCAGCGTCCTCGCAAGGCCAGCGCCCAGGCAGGCCAGGAGGCCCG
AGCAGCGGCAGCAGCGCCGGGGCCGCCGGGAAGCCTCCGTCCCCGGCGGCCGGCGGCCGGCGGCCGGCG
GCAACATGGCCTCGGCTGGTAACGCCGCCAGCCCCAGGACCAGCGGGCGGCCGGCAGCGGCTGTAT
CGGTGCCCGGGACGGCCGGCTGGAGGGGGAGGCCAGACGGACGGGGGGCTGCACGTGCTGCC
GCGCCGGACCGGGACTATCTGCACCGGCCAGCTACTGCACGCCCTCGNTNNGAGNAGATTN
CCANGNNNGCATTTCAGACTNTCTNTCCACTTTNTCTCCNTACCTNTAACCTNTAACCTNTNGGGATCG
CCCCCGCCACACACAAACACACACTNTCTCCTCTNTNTCTCACACACACACACACTCACTCAC
ACNTCTNCAGGAAAAGCAGCAGACAAATGGGGATTGAAAAAATTCAAACCCCTCCCTCTGGTNNTGGGA
GGAAAGGGCTGTCTGAGGTCCGCAGGGGGTGGAGGTGTGTGTGTGTGNANACAC
ACGCCCTCCCTGGTGTGCCCTTCGGAGCACTGGAAAGCCGTCCACGGCGGACCACCTCAAGGGCGG
CCGC

GCGGTCGTAGCGGTAGTAGCGTCTCGTGTGAGTAGTAGTAGCGGGTTGGTTGTTAATCGGAGTTCG
AGTTCGAGTAGTTGCGGTTAGTAGCGTTTCGTAAGTCGAGCGTTAGGCAGCGTTAGGAGTTCGTAGT
AGCGGTAGTAGCGCCTCGGGTCGGGAAGTTTCGTTTCGCGGGCGCGGGCGCGGGCGGTAA
TATGGTTTCGGTTGGTAACGTCGTGAGTTAGGATCGCGGCGGCGGCGGTAGCGGTGTTATCGGTGT
TTCGGGACCGGTCGGTTGGAGGCAGGCAGGCGTAGACGGACGGGGGGTTGCGTGTGTCGCGTCG
GATCGGGATTATTGTATCGGTTAGTTATTGCGACGTCGTTTCGNTNNGGAGNAGATTNTTANGGN
NGGTATTAGATTNTNTTTTATTNTNTTTNTATTNTAATTNTNGGGATCGTTTCGTTA
TATATAAATATATATTNTTTTTNTNTTTATATATAATTATATAATTATTATTATNTTNTAGG
AAAAGTAGTAGATAATGGGGATTGAAAAATTAAATTNTTTGGTNTGGGAGGAAAGGGTTGT
TTGAGGTTCGTAGGGGGTGGAGGTGTGTGTGCGTGTGTGNANATACGTTTTTG
TGTGTTTTTCGGAGTATTGAAAGTCGTTACGGCGGATTATTAAAGGGCGGTG

PTCHB CpG Island (SEQ ID NO:117)

GC GG CC CG CG GCA CT GT CCT G CCCC GT G CCCC CT G C C T G A A C T C T C C T C C T G C G C C C T G C C C T A T
TT GC AG C C T A A A C T C C T G T A C G G C T G C C A C A T T C T T A A C T C T G G A G G G G A G G C G G A G T G G A G A G
A G G C G G A G A G A G G A A G G G G G A G G G A G C G G A A A T A A A G G T G G T T C C T T T G G C A G C C A G T T T G
G T T T G T G A G C A T G A A A T C T C T G C T C C T T A A A A A T T A T T C T C G G A A A A A G A T A T C C C C C C G T T T
C C A G G T T T G A G C C G C T C C T T A G G G C T G T C G G G G A G G A A A A G T G T A A A C A A A T T G C C A C C T
T A A A T T C G C G G T G C G A N T C T G C G G A G C T G C C G G G T T C A T T G T G T T A C G A G G C T C G C T G A A A T G T G T G
G A A T C C A G G G A A G G C G A G C A C C C A G A C G G G G G C C C G G G G C C G C G G C A G C G C C G G G G A A T G C
C G C G C C G G G A G C A G C A T G C G C C G G C T G A G C C C T T C C T T T G C A C T C G G C T G T T T T A C G T T A A C C
A G A A A G G A A G G G A G A G G A G G G A A A G A T C C A T G T G G C T G C C C T C T C C G A T C A C A A A T T G T C G T A A
G T T G C A G C T G G C T G C C C A N T C C T A A T C A G C T C A C A C A G C N T N T C C C A C G C T A T G G A A A T G C G T C G
G G A G T G A A C T C C G G C G G C G C

FIGURE 4F

SDC1 CpG Island (SEQ ID NO:118)

Ggagaggtgcgggcccgaatcccgagccgagcgagaggaatccggcagttagagagcggactccagccggcggaccctgcagccctcg
cctgggacagcggcgcgtggcaggcgcccaagagagcatcgagcggaaacctcgcgaagccggccgcagccgcgaccgc
gcagcctgccgtctccgcggcgtccggcagcatgaggcgcgcggcgtctggctgtgcgcgtggcgtgagcctgc
agctggccctgcccga

SDC4 CpG Island (SEQ ID NO:119.)

Agtaggagccggcgggctcgggcagggcgggtccctgggtttccaactccgcgggcggcgcagtgcggccgcaggccctgcgttcc
actggggaaattccgggggggtgcgggcggcgggggggggggggggggggggggggggggggggggggggggggggggggggggggggggg
cgccccccccccccccactcgccgcagccctgcgcgccttcctccagtcgcgggtgcgcgtggccatggcccccccccgtctgtgcgcgtgcgtt
cttcgtaggcggagtcgcgcagtcgggtgggtgcgtgggggtccgggggggggggggggggggggggggggggggggggggggggggggggg
cgtcggagcgtggatggggggggggggcagatcgggggtacgcgtaccccaaccggacaccggagggccggaaacttttgtggaaacttt
gctccgggggtcacgggcccagcctccggatggcgtcacgcggcgtgcgcgcctgcgttgtgccttccgcctcccccgggcctcagccc
cgccgcgggctacgggtcgtagtgcataagccgggtcaactctcaactcccacccctgcgtccctccctggtgaccctggggcagg
cttggagcgtgaatccctccctcgctcggggcggccagagcagacagctttaggatccgagatgccctgggggtcgggggcgtgc
gtgtactcggaagggggagggttagggttgtgcgaggccc

FIGURE 5

0000750 225000000
MINT31 (SEQ ID NO:120)
CCCGGGCCT CTATCCTGGC GGGAAAGGGCA GGCGGACCCG GCAGACTGCG GCCTCTCGGG
AGGGAAAGAAG GTGTCAAGACG CGCGGAGCAA CCATAAAATAG CCCCCCTTTC CCAGAAAGACG
GCACGGGGTT CAAGACTCAG GCGCCGCATA CTCACAATGA GAGCAGAGAC TCCCGCCAGG
AAAAAAAGGGC ACTTAGGGGA TCTGCTCATT AACATGAAAT GCAAATGAGC CCGCCCCGCC
TCATTTACAC AACTCTGTGC ATGGATTCGG CGAAAGGGCA ACCAGGGAGA CGACGGCGCA
GCAGCCACTC TGCCACTTCC CCCATCCCCT CCCCCCCATC GGCCGGGGCG GGAACGTGAGA
CGACCCCAAC CCTCTGCGGC GGCGGGAGGT GCGCGGGGGC TGCCTGGGTG GTGCAGCCTT
AGGGGAGTGA ACAACGCCA GGGGTGATGG CCTCAGAAA GTGAGGGGTG GTGATGGAGG
TCATCCGACC CATCCCGCCG CCTCTCCGCA GTGGCGCAAG CGCCCCAAA TCTCCGGAGA
NGGAACGTGAG TGACCCACTA GGTCCCGCCG TGTCTACCTC TCGCAGATGT TGGGGAAGTG
CTTCCCGGGCG TCTAATCCTC GCTGTTCCCC CCTCCACCGG CGCCCAGCAC ACCCGCGGCC
CTCCGCTCCC GGG